AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listing, of claims in the application:

1. (Currently Amended) A method for improving throughput in continuous electrodialysis processes, the method comprising automatically neutralizing acid generated in acid loop solutions residing in an electrodialysis stack in strong acid/weak base configurations and neutralizing base generated in base-loop solutions residing in an electrodialysis stack in weak acid/strong base configurations including directly adding a buffer to the solutions, wherein said buffer is regenerated continuously and external to the electrodialysis stack and wherein said buffer keeps the solutions within a desired pH.

2. (Previously Presented) The method as recited in claim 1 wherein the process involves the formation of an acidic solution in the electrodialysis stack and said buffer is added to the solution.

3. (Previously Presented) The method as recited in claim 1 wherein the process involves the formation of a basic solution and said buffer is added to the solution.

4. (Cancelled)

5. (Previously Presented) The method as recited in claim 1 wherein the buffering agent is premixed with a solution situated remotely from the stack.

6. (Original) The method as recited in claim 1 wherein a buffering agent is added at ambient temperature.

7. (Original) The method as recited in claim 1 wherein the electrodialysis process operates at a temperature which ranges from about 15^0C to 40^0C.

8. (Cancelled)

9. (Previously Presented) The method as recited in claim 1 wherein the anionic and cationic moieties are added to the ED system as solids, liquids, gases, solutions or any combination thereof.

10. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that will become acidic, a buffer pair is created by adding an acid and a metal hydroxide to the "acid-loop" stream.

11. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that is already acidic, a buffer pair is created by adding a metal salt of the acid's conjugate base to the "acid-loop" stream.

12. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that will become basic, a buffer pair is created by the addition of a base and its conjugate acid to the "base-loop" stream.

13. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that is already basic, a buffer pair is created by the addition of an acid to the "base-loop" stream that contains, as its conjugate base, the base present in the ED electrolyte solution.

14. (Currently Amended) A process for maintaining the pH of <u>cationic and anionic</u> electrodialysis membranes in electrodialysis cell compartments, the process comprising controlling the pH in an acid-loop or base-loop solution created by the electrodialysis cell in operation within two pH units, the process including adding a buffer <u>directly</u> to the solutions, wherein the buffer is regenerated continuously and external to the electrodialysis cell components and concentrations of the anionic and cationic moieties of said buffer are dependent upon a desired pH.

15. (Previously Amended) The process as recited in claim 14 wherein a buffer solution is a means of maintaining the pH of the ED acid solution to within one pH unit.

16. (Original) The method as recited in claim 15 wherein the buffer solution is supplied to the cell compartments via a tank external to the cell compartments.

17. (Original) The method as recited in claim 14 wherein controlling the pH in the acid-loop is a means of protecting bipolar membranes and their active sites.

18. (Original) The process as recited in claim 15 wherein the buffering solution is added at ambient temperature.

19. (Original) The method as recited in claim 14 wherein the electrodialysis cell operates at a temperature which ranges from about 15^0C to 40^0C.

20. (Previously Amended) The method as recited in claim 14 wherein a buffer solution is added to the stack to maintain the pH of solutions within the stack to within 1 pH unit of said desired pH.